LEDGER 8760

ledger8760.com
401 S. Curry Street
Carson City, NV 89703

April 2, 2021

Kate Thomas
Washoe County Assistant Manager
Via email

Dear Ms. Thomas:

Thank you for the opportunity to present this proposal to Washoe County (the "County"). We appreciate the time you and Mr. Brown have taken to learn more about Ledger8760. The entire Ledger Team is looking forward to supporting the County's efforts through the implementation of our cutting-edge energy, emissions and GhG-tracking platform.

Ledger's innovative, patented technologies will enable the County to establish environmental leadership by incorporating:

- A first-of-its-kind data ecosystem that simultaneously collects, protects, and displays energy, sustainability, and regulatory data to internal and external stakeholders;
- A sophisticated, easy-to-use platform that will synthesize the County's Scope 1, 2, and 3 emissions data;
- Industry-leading methodologies for calculating the actual carbon content of the the County's facilities; and
- A passionate, visionary team dedicated to providing efficient, intuitive solutions while reducing the County's internal workload.

The attached proposal discusses the details of how Ledger will provide these services to Washoe County. We are excited to share our passion for using emissions data to achieve environmental, social, and regulatory goals, and look forward to the opportunity to work as your partner and achieve success together.

Thank you for your time and consideration,

Adam Kramer
LEDGER 8760
Chief Executive Officer
adam@ledger8760.com | (805) 405-7222
Reno | Seattle | Portland | Las Vegas | Los Angeles | Luxembourg

Introduction + Proposal Overview

Ledger8760 ("Ledger") provides customers with critical data to understand their emissions impacts, and ties this information to real-time pricing and risk metrics. Ledger provides SaaS driven, turn-key Greenhouse Gas Emissions-tracking for all emissions sources required to meet international goals identified by the Paris Accords, using metrics established by the Intergovernmental Panel on Climate Change (IPCC). Ledger is an essential tool for organizations that are serious about optimizing their own performance and leading by example toward a new, carbon-free future. Ledger's Carbon Tools provides first-of-its kind, real-time visibility into the carbon content of an organization's electric, gas, transportation, waste, and other emissions - a full-suite ESG risk management platform.

Ledger will provide the technology and services for automated data collection, analysis, alerts, and reporting. Ledger tracks meter and other consumption data, and communicates with hardware, accounting, and building management systems. Included in this bid is system training and ongoing maintenance and support of the Ledger Platform. Ledger manages hourly or 15-minute interval collection, where available, and can scale to hundreds of thousands of meters. Ledger creates a comprehensive data set through automated collection of data from meters and other systems that permits frequent, near real-time analysis of meter readings and enables early identification of irregularities, including meter malfunction, free-flow energy leaks or anomalous data spikes. Ledger develops and implements data access strategies, including the negotiation of permissions from third parties holding customer data. Ledger provides transparent and customizable options for communicating to internal or external stakeholders.

Ledger proposes to perform the following services for the County:

- Track cost and sustainability metrics for electric use and provide a holistic view of all related (Scope 2) emissions at County facilities;
- Track and report direct (Scope 1) emissions for all County activities;
- Calculate and track material indirect (Scope 3) emissions as identified by County in consultation with Ledger;
- Data driven energy management tools and increased operational efficiency;
- Provide portfolio-, building-, and system-level energy performance analysis;
- Track the impact of energy efficiency projects;
- Track energy demand;
- Calculate and report greenhouse gas emissions;
- Produce reports for energy and utility management, operations, and maintenance; and
- Provide public energy dashboards or data that can be easily transferred as desired by the County.

2. Project Team

Project Lead	Technical Lead	Data Specialist
Josh Griffin Email: jgriffin@ledger8760.com Phone: (702) 610-3092	Samyak Shah Email: samyak@ledger8760.com Phone: (510) 579-4765	Alexis Samuelson Email: alexis@ledger8760.com Phone: (253) 306-2859
Design Lead	**Project Advisor**	**Project Advisor**
POC: Coreen Callister Email: Coreen@ledger8760.com Phone: (801) 201-1624	Adam Kramer Email: adam@ledger8760.com Phone: (805) 405-7222	Josh Weber Email: jweber@ledger8760.com Phone: (503) 308-3548

(Please refer to Attachment A within the Appendix for Ledger Team bios)

Scope of Work

3.1 Technology Capabilities

3.1.1 Meter Data Tracking and Display

- Ledger technology currently tracks and displays customer meter data by collecting data points at hourly or 15-minute intervals, and displaying this data from an hourly view. Meter points are collected at the whole-building level (electricity, gas, water, and associated emissions).
- Ledger tracks hourly energy output and associated emissions for all resources consumed by a customer, including Solar PV, wind, and energy storage as applicable. *Please see Appendix Attachment B, Ledger Ecosystem Overview*

3.1.2 Energy Data Inputs

- The Ledger system is capable of interfacing with utility data or remotely readable meters to collect interval data using industry standard communication protocols. During Phase I, Ledger will commence manual data collection by acquiring all available meter interval data from the County's energy provider. Ledger will immediately begin negotiations with meter owners jointly with the County beginning in Phase I. During Phase V, Ledger will phase in direct data collection from remotely readable meters using industry standard communication protocols as permitted by meter owners.
- Ledger is capable of uploading and storing all historical data that the County is able to provide, including baseline data from any number of facilities going back to any desired date, as available.
- County data, trended at short intervals (e.g., 15-min or day), will be available in standard spreadsheet formats, and graphically visualized as required (standard visualization is at hourly periodicity). Ledger will store all data until the County achieves its greenhouse gas emissions goals, or until the end of the service period. Upon the conclusion of the service period, the County will receive a copy of all stored data in Excel or CSV format.

3.1.3 Data Quality Checking

- Ledger datasets currently enable detection of gaps, spikes, flat-lines, and any other anomalies. Ledger currently notifies customers, and corrects anomalies once the source of the data aberration is verified with the customer.
- Customizable notification schemes for data quality alerting will be available during Phase IV.

3.1.4 Energy Costs Tracking

- Ledger Energy Profile Graph™ and Financial Tools calculate and provide real-time visualizations of current and historic energy costs. Ledger estimates blended rates, unbundled costs (at option of customer), time of use, and PPA rates in its Energy Profile Graph™ and reporting system on a $/kWh basis.

3.1.5 Energy Unit Conversion

- During Phase IV, Ledger will meet with the County to integrate and display normalized data (e.g. heating/cooling days, humidity, head count, building area, etc.) to meet County analytic needs.
- Ledger currently converts, displays, and reports energy use in equivalent environmental metrics including CO2e, miles driven, etc.

3.1.6 Baseline Energy Consumption Modeling

- Ledger's proprietary and patented technology tracks and calculates hourly grid fuel mix on an 8760 hour/year basis, adjusted for physical and financial grid characteristics. Each kWh is associated with hundreds of data points to develop the best available greenhouse gas modeling and reporting.
- During Phase V, County historical and real-time datasets will be leveraged to provide predictive, forward-looking models for both energy usage and carbon intensity. Normalized and actual models may be provided as required by the County to analyze actual or potential energy savings, load forecasts, and facility performance.
- Ledger provides monthly energy peak load data by site and by system.

3.1.7 Waste Data

- Ledger will integrate with Waste Management systems to auto-import waste and billing data.

3.1.8 Transportation Data

- Ledger will collect fuel and/or mileage data associated with the Washoe County's owned and operated vehicle fleet. Ledger will assist with implementation of fleet management systems and/or use devices as desired by the County to automate fuel data capture and provide analysis of fuel associated emissions.
- Ledger will assist the County in procuring and implementing technology to provide mileage and fuel efficiency-tracking if desired by the County (hardware cost not included in this proposal).

3.2 Utility Billing Management

3.2.1 Billing Data Input

- Ledger integrates with energy providers and third party data holders to directly import utility billing and usage data for its customers. Ledger has identified interim methods for importing County data, and will be solely responsible for automating this process.

3.3 Energy Efficiency Project Management

3.3.1 Energy Efficiency Project Management

- The Ledger dataset provides the opportunity to analyze and track energy efficiency savings. Upon identification of historical or ongoing efficiency initiatives or installations, Ledger will assist with analysis of normalized and actual performance deltas, and associated savings, expressed both in terms of dollars and CO2e emissions saved. Savings may be visualized and communicated via the Ledger Dashboard.

3.4 Overview of Implementation Timeline (assuming April 22, 2021 Start Date)

Phase I: Electric Emissions Tracking (Scope 2 emissions) | *Target Date: May 6*

Onboard Washoe County to Ledger's custom portal to enable viewing of real-time and on-demand energy data and carbon content of electricity that the County directly consumes, as well as fully measure the GhG emissions from County-owned assets (e.g. County Administrative Buildings, vehicles, parks, streetlights, etc):

- Identify sites/properties to be tracked for Scope 2 emissions (electricity);
- Set up each site identified for Scope 2 reporting on the Ledger platform for hourly tracking of electricity consumption, cost, and GhG emissions;
- Automated reporting on Scope 2 GhG emissions and financials;
- Provide monthly energy peak load monitoring by tracking peak load by site and by system;
- Automated and/or personal notifications of gaps, spikes, flat-lines, and any other anomaly indicating a data quality issue, as well as correction of the meter data once the source of the data aberration is verified with the customer; and
- Begin negotiations with energy provider(s) to collect meter data automatically on behalf of the customer.

Phase II: Begin Direct Emissions Tracking (Scope 1 Emissions) | *Target Date: May 13*

Onboard Washoe County to Direct Emissions Tracking and Reporting:

- Identify sites or sources (e.g. onsite combustion, fleet emissions) to be tracked for Scope 1; and
- Scope 1 on-demand reporting and visualization of consumption and GhG emissions on a daily or monthly basis, depending on data granularity.

Phase III: Begin Indirect Emissions Tracking (Scope 3 Emissions) | *Target Date: May 21*

Identify all indirect emissions (Scope 3) that meet materiality standards for reporting. Ledger will assist in the identification of these emissions with reference to international reporting standards.

- Implement a concierge service designed to begin immediate reporting while reducing the workload of County staff during the onboarding period;

- Work with the County's facilities' operations team to programmatically monitor and measure all Scope 3 emissions as identified above; and
- Integrate full real-time and on-demand Scope 1, 2, and 3 emissions reporting into the custom portal (including public-facing).

Phase IV: Provision of reports and full baseline carbon inventory | *Target Date: June 22*

- Implement direct data collection from remotely readable meters using industry standard communication protocols as permitted by meter owners;
- Present a comprehensive analysis of data and key insights (approached at a monthly level) via formal presentation by the Ledger Team, which will include annual review and analysis of GhG performance to help the County reduce energy consumption and carbon emissions;
- Subject to data availability, provide a full Baseline Carbon Inventory for Calendar Year 2019 or 2020;
- Customizable notification schemes for data quality alerts; and
- Launch and maintain a public-facing Portal or website at a time agreed upon by the County.

Phase V: Additional development and Ongoing Maintenance | *Ongoing throughout Service Period*

- Ongoing maintenance of the Washoe County Carbon Tools platform and continuous process improvement;
- Normalization of energy data for all sites according to factors that are known to affect energy consumption;
- Development of integration tool between the County's fleet management system for real-time monitoring;
- Annual and as-needed recommendations and least-cost and best practices for GhG reductions; and
- Predictive analytics for energy usage and carbon intensity based on key drivers such as weather (degree days / outside air temperature), occupancy, time of day/week, and/or other variables.

4. IT Requirements

4.1 Data Storage, Backup, and Hosting

4.1.1 Database and Storage

The Ledger Data Ecosystem is built upon secure and scalable databases (e.g., SQL, Postgresql). Ledger creates regular data backups on a sub-monthly basis.

4.1.2 Database and Storage Maintenance

Ledger Systems are highly scalable and capable of storage and maintenance of covered County data through and beyond target dates for compliance with the Paris Accords (2030 - 2050). All software, data storage, and necessary infrastructure will be provided by Ledger.

4.1.3 Digital Services

Ledger provides all digital services through Ledger's web application with secure credentials for the customer.

4.2 Security

4.2.1 Security

Ledger employs industry standard security protocols that comply with all County requirements. Ledger securely stores and processes customer data using a SOC 2-compliant cloud application service. Ledger will encrypt and securely store customer's sensitive and private data. Ledger monitors and protects customer data from unauthorized users or access.

4.3 Networking

4.3.1 Networking Capabilities

Ledger technology is compatible with a wide range of commonly used network protocols, and expands its compatibility to specific systems used by customers. For example, Ledger can integrate with all common building management systems (e.g,. Schneider, Siemens etc.), utility data management protocols (e.g., Greenbutton,

EnergyStar, etc.), application programming interfaces (e.g., RESTFUL, OpenAPI, etc.) as well as supervisory control and data acquisition systems, as necessary. Ledger securely transfers data via secured web protocol, and implements secure practices to protect customer data.

4.3.2 Web Browsers

Ledger is compatible with all common web browsers such as Edge, Safari, Chrome, Firefox, and others as requested by customers.

4.3.3 BMS and System Bandwidth

Ledger accepts output of BMS and internal systems, but does not burden network bandwidth at interfaces within the building monitoring and control networks.

4.3.4 Legacy Systems

Ledger will be cognizant of interfacing with any legacy systems, avoid any network overload, and consult with the County regarding potential threats to legacy networks.

5. Cost Proposal

Ledger proposes an onboarding fee of $14,000, discounted from our estimated cost of $28,200, for a savings to the County of $14,200 in recognition of our partnership. Ledger proposes an ongoing fee for operation and maintenance of the internal- and external-facing platforms of $6,000/month, which reflects a discount of $970/month for a contract term of 36 months. All services used within the scope of this proposal for 36 months will be included at the stated rate with no annual escalator.

All costs of personnel are fully loaded (including overhead, supplies, and benefits) at Ledger's below-market cost. Ledger will not charge the County for travel, and will perform the proposed work within the fixed budget. No hardware costs are proposed because the data needed to manage the system is available through existing hardware and associated networks, or is being provided by Ledger pursuant to the Software License as noted below. Should the County decide to install additional hardware to meet its needs (e.g. vehicle-tracking devices or metering related to new renewables, etc.), Ledger will cooperate and integrate with such hardware within the scope of this agreement, but the additional cost of the hardware is not within the scope of this agreement.

Pricing Structure

One-Time Fees	Explanation	Cost
On-boarding (Phases 1-3)	Personnel: **Technical Lead:** 70 hours @ $120/hr: Discovery of data inputs needed. Data collection of all inputs, and data upload for all inputs. Testing, product architecture and customer liaison. **Design Lead:** 60 hours at $120/hr: User research and development of custom platforms for internal and external stakeholders. **Data Specialist:** 140 hours @ $50/hr: Data entry, data management and quality assurance, interim data acquisition. **Project Lead:** No cost **Project Advisors:** No cost	$22,600
Software set-up fees	**Sr. Software Developer:** 47 hours @ $120/hr: Software configuration to set up sites and other County-specific information. Software development to calculate Nevada Energy carbon intensity on	$5,600

	hourly basis. Development of initial data acquisition, Washoe County database and software instance	
Washoe County (2020) Full Carbon Inventory		No Charge
Hardware / Communications		N/A
Total for Onboarding Phase 1-3)		~~$28,200~~ $14,000
Ongoing Monthly Fees	**Explanation**	
Ongoing software fees	Data storage and hosting, access, training, and technical support.	$2,700/ month
Ongoing Maintenance and Data Management	**Jr. Software Developer** 10 hours/mo. @ $85/hr: Security, Maintenance, troubleshooting, customer support. **Technical Lead:** 4 hours/mo. @ $120/hr: Product management, customer success **Design Lead:** 2 hours/mo @ $120/hr: Ongoing maintenance of and updates to public-facing platform, public engagement **Data Specialist:** 20 hours/mo @ $50/hr: Ongoing data collection, upload, maintenance, and troubleshooting **Project Lead:** No Charge	$2,570/month
Integration and Phase 4-5 deliverables	**Sr. Software Developer:** 10 hours/mo @$120/mo: Software development needed for improved data integrations; stochastic modeling and normalization, additional Phase V deliverables.	$1,200/month
Licensing Fee	License fee for Ledger Data Ecosystem™ Western Carbon Mapping and Ledger Carbon Tools™ Dashboard	$500/mo
Other Services	Monthly and Annual reporting; GhG consulting	No Charge
Fixed Monthly Charge (Phases 4-5)		~~$6970~~ $6000

Proprietary Info Disclosures

Ledger8760 has created a proprietary carbon emissions data model that associates each kWh consumed by the customer with thousands of data points to build an hourly model of price and emissions data. This data model is built around publicly available data, and Ledger's internal dataset and proprietary modeling. Use of this data model and all other Ledger8760 technology will be subject to an acceptable use policy (AUP), and may not be used for any purpose outside of the deliverables contained herein.

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Appendix

Attachment A. Ledger Team Bios

Adam Kramer

Chief Executive Officer

Adam Kramer is a tech executive with more than a decade of experience working with technology and sustainability. Throughout his career he has executed more than $1 billion worth of Power Purchase Agreements and led Switch to being awarded top honors in sustainability from GreenPeace, EPA and industry leaders.

Josh Weber

Co-Founder, Chief Strategist

Josh Weber, an energy and regulatory attorney, co-founded Ledger8760 with Josh Griffin in 2017. His regulatory and market acumen shaped Ledger's strategy of developing solutions that provide value today, while laying the framework for a new energy and sustainability landscape.

Josh Griffin

Co-Founder, Chief Revenue Officer

Josh Griffin, a long-time energy and sustainability public policy advocate, has represented a number of the largest tech, gaming, mining, and health-care companies in the world. As Chief Revenue Officer, Josh connects Ledger's data-driven solutions to companies that desire better information to meet their financial and sustainability objectives while meeting the constantly-changing regulatory landscape.

Coreen Callister

Director of Design & User Research

Coreen leverages design as a force for positive change. Her experience as a researcher and visual interaction designer spans Stanford Children's Hospital, IDEO's San Francisco studio, and as an instructor in the department of Human Centered Design & Engineering at the University of Washington.

Samyak Shah

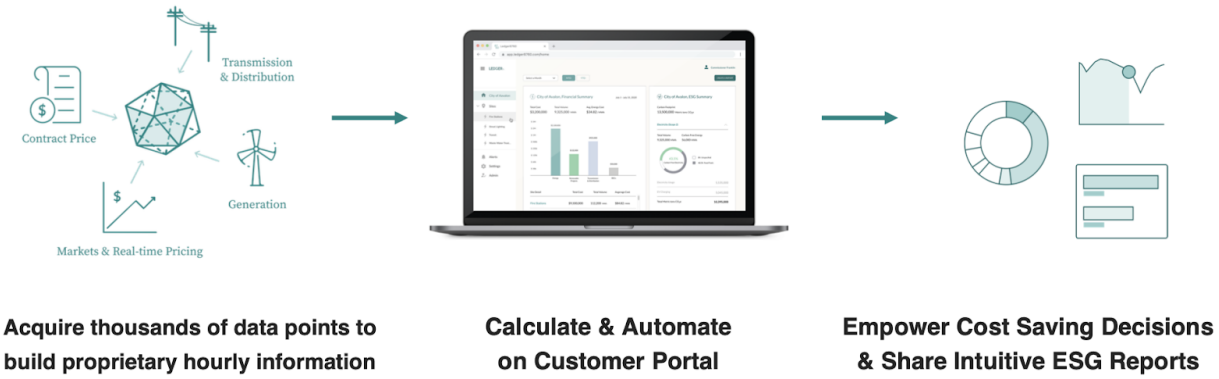
Director of Product

Samyak bridges the business and sustainability needs of Ledger's customers through tech solutions. Previously, Samyak helped build products for Xero, Capital One, and VeriFone, and he later launched the Reduce App for consumers to track carbon footprint based on their spending behavior.

Attachment B. Ledger Ecosystem Overview

At the heart of Ledger's technology (over 20 patents filed with ten more in process) is a cutting-edge data ecosystem that uses proprietary technology to "tokenize" energy, sustainability, and regulatory data in real-time. With hourly granularity, Ledger's ecosystem seamlessly collects, protects, and puts data to work to solve environmental, social, and regulatory problems for companies and jurisdictions. Ledger's Carbon Tools serves as a repository for emissions data from all customer activities spanning direct emissions, grid emissions, and indirect emissions using internationally accepted IPCC standards and best practices developed for implementation of Paris Accords goals across industries and jurisdictions.

Figure 1. Ledger Technology Overview



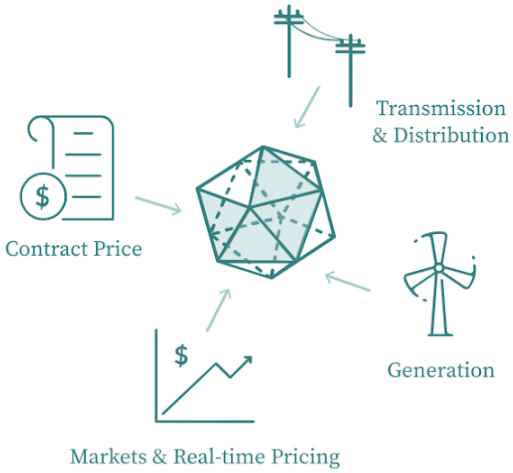
The Service Level and Front End Platform will be substantially in the form of the wireframes in Attachment C.

A Digital Life per MWh

Upon financial obligation, Ledger creates a digital “token” for each MWh committed to a customer.

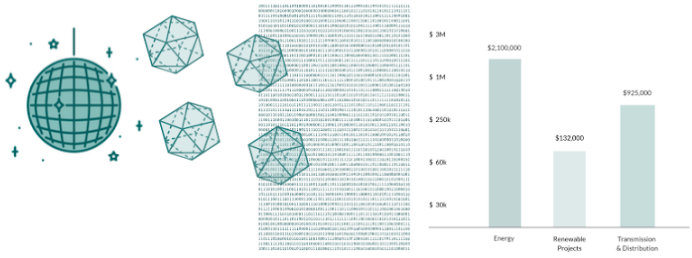
200+ Data Points

A token becomes multi-faceted along its journey, gaining hundreds of data points related to cost and carbon impacts.



Secure Data Ecosystem

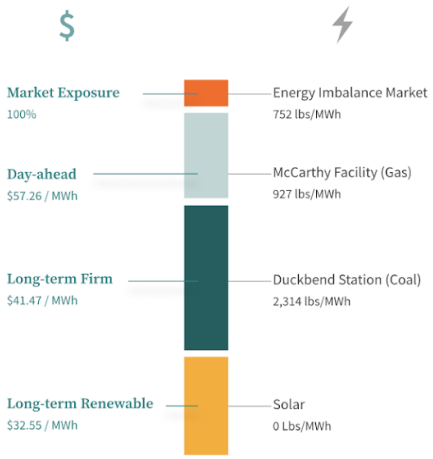
The Ledger Data Ecosystem automates calculations to display more intuitive tools that optimize cost and support ESG goals.



Hourly Electricty Data (Scope 2)

Cost and carbon content of electricity usage tracked by the hour.

- **Unmatched Accuracy**
- **Granular Data**



Instant Emission Calculations (Scope 1)

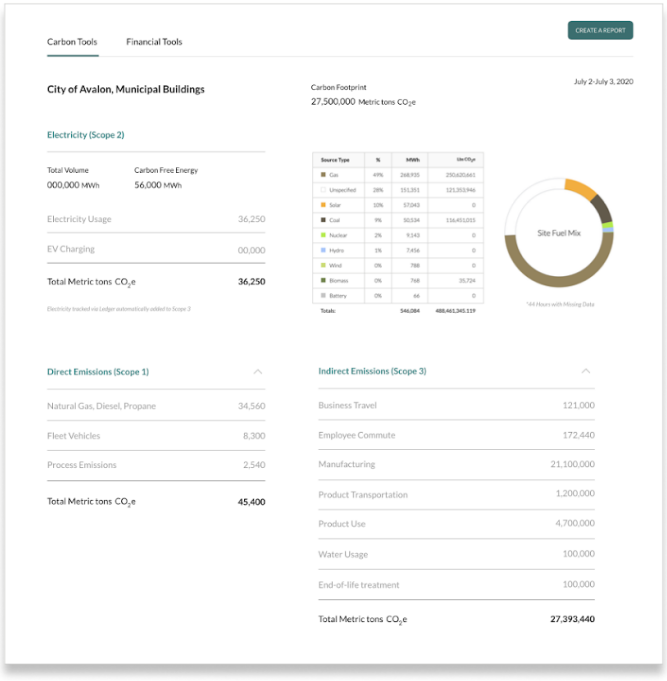
Automates direct emission data, instantly calculating carbon impacts.

- **Updates in Real-time**
- **Reduces Costs**

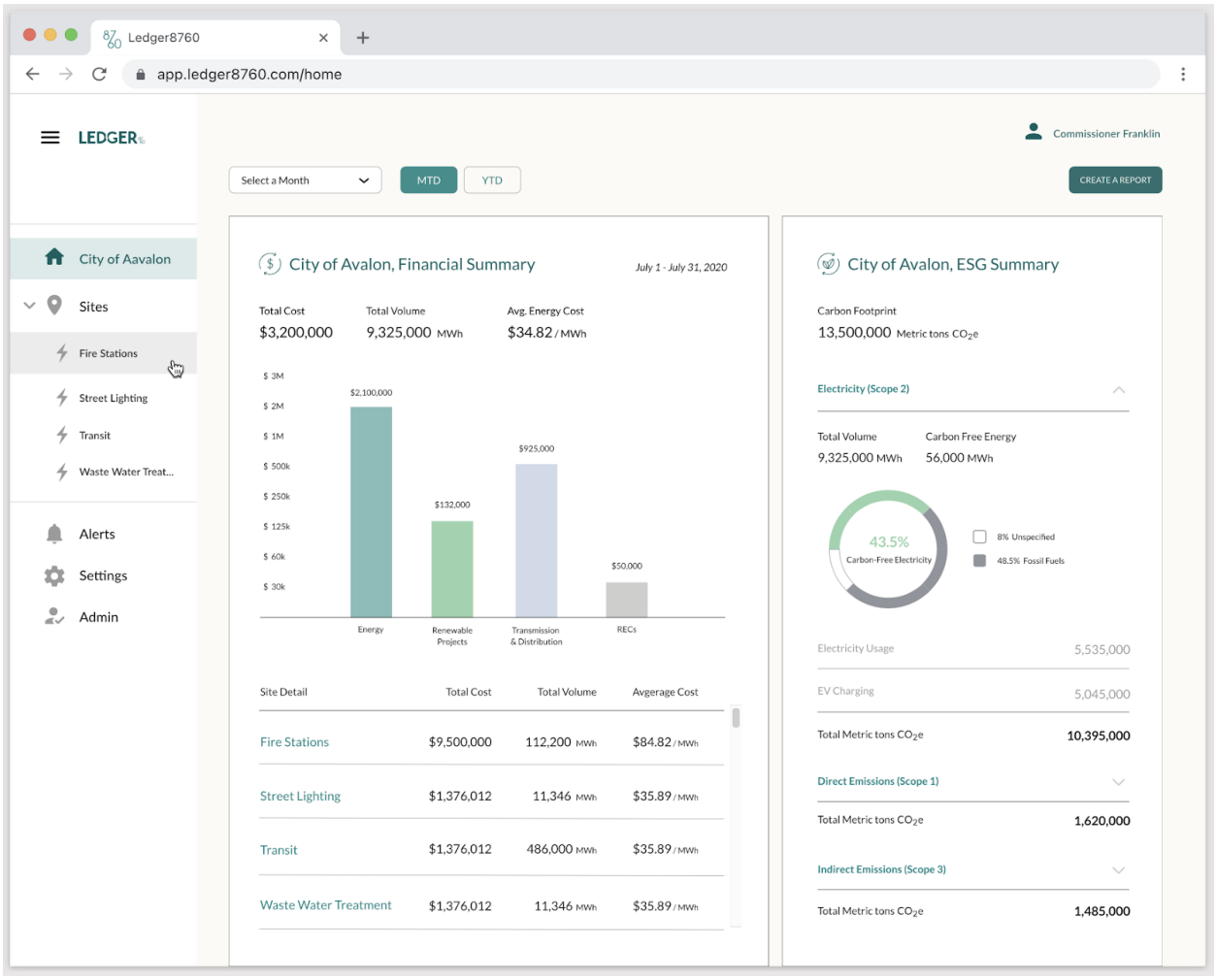
Automated Indirect Impacts (Scope 3)

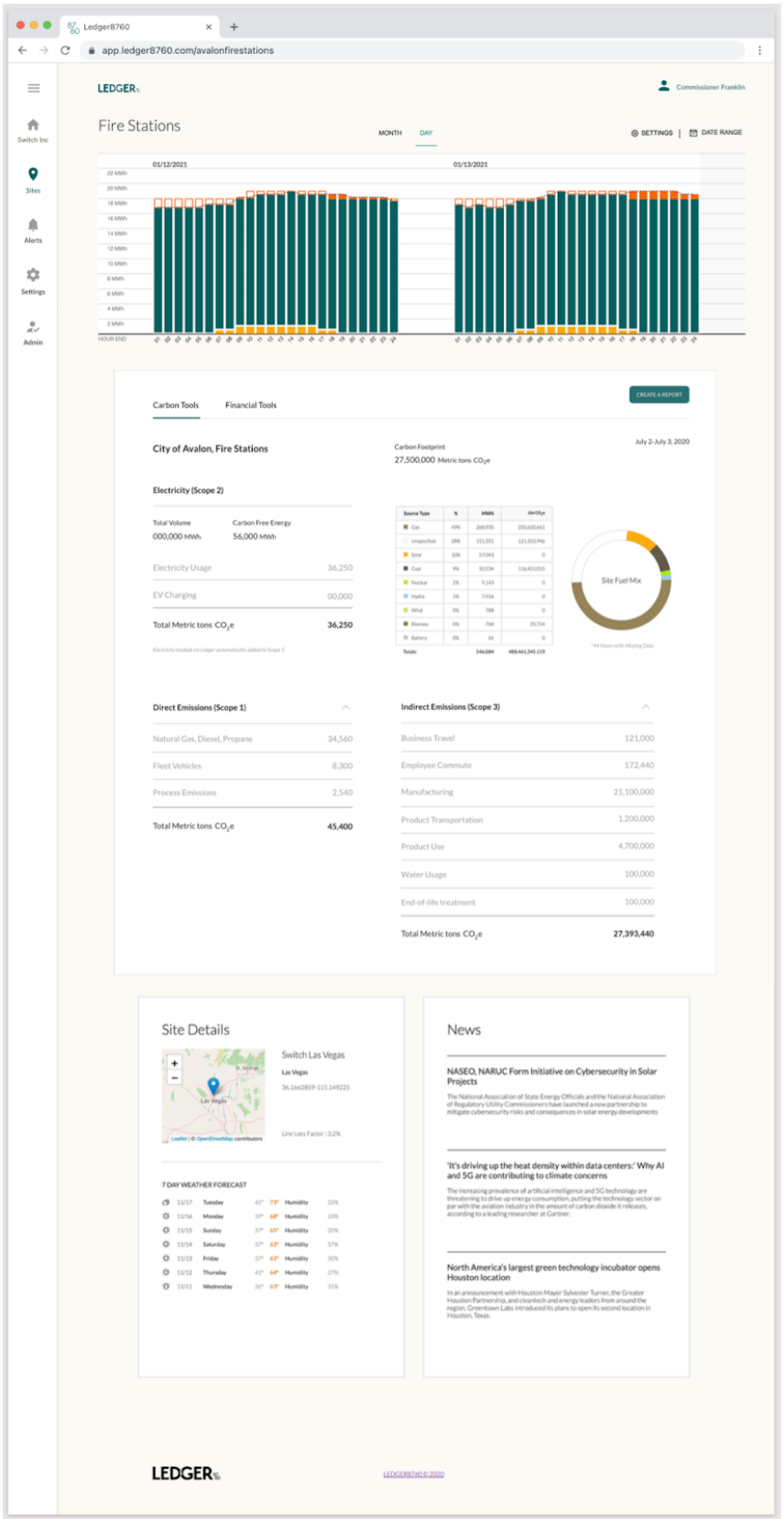
Calculates carbon & environmental impacts *beyond electrcity* for transport fuels, solid waste, water treatment, etc.

- **Actionable Reports**
- **De-risks Energy & Carbon**



Attachment C. Service Level and Front End Platform




Ledger8760
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Commissioner Franklin
Switch Inc
Sites
Alerts
Settings
Admin
Fire Stations
MONTH
DAY
SETTINGS
DATE RANGE
01/12/2021
01/13/2021
Carbon Tools
Financial Tools
CREATE A REPORT
City of Avalon, Fire Stations
July 2-July 3, 2020
Carbon Footprint
27,500,000 Metric tons CO2e
Electricity (Scope 2)
Total Volume
000,000 MWh
Carbon Free Energy
56,000 MWh
Electricity Usage 36,250
EV Charging 00,000
Total Metric tons CO2e 36,250
Site Fuel Mix
Direct Emissions (Scope 1)
Natural Gas, Diesel, Propane 34,560
Fleet Vehicles 8,300
Process Emissions 2,540
Total Metric tons CO2e 45,400
Indirect Emissions (Scope 3)
Business Travel 121,000
Employee Commute 172,440
Manufacturing 21,100,000
Product Transportation 1,200,000
Product Use 4,700,000
Water Usage 100,000
End-of-life treatment 100,000
Total Metric tons CO2e 27,393,440
Site Details
Switch Las Vegas
Las Vegas
7 DAY WEATHER FORECAST
News
NASEO, NARUC Form Initiative on Cybersecurity in Solar Projects
'It's driving up the heat density within data centers:' Why AI and 5G are contributing to climate concerns
North America's largest green technology incubator opens Houston location
LEDGER